PROVINCE OF ONTARIO

NUCLEAR EMERGENCY PLAN

PART V - CHALK RIVER

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Ontario
Executive Council

Order in Council

92-03207/

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and concurrence of the Executive Council, orders that

the appended document entitled "Province of Ontario Nuclear Emergency Plan Part V - Chalk River" respecting emergencies arising in connection with the Chalk River nuclear facility be adopted as Part V of the Province of Ontario Nuclear Emergency Plan, Order in Council numbered 1618/86 formulated under section 8 of the Emergency Plans Act, 1983, S.O. 1983, c. 30.

Recommended
Solicitor General

Concurred
Chairman

Approved and Ordered September 13, 1991
Date

Lieutenant Governor

O.C. 2170/91

FOREWORD

The Province of Ontario Nuclear Emergency Plan, Parts I through VIII, has been developed pursuant to Section 8 of the Emergency Plans Act, 1983. Numbered copies of the various parts of the Plan are distributed according to the Distribution List appended to the Part I Master Plan. Holders of these numbered copies are responsible for keeping them updated by incorporating numbered amendments, which will be issued from time to time.

Additional copies of the parts of the Nuclear Emergency Plan are available, for official use, from Emergency Planning Ontario, and for others, in Toronto, at:

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This plan is administered by the Solicitor General of Ontario. All comments and suggestions relating to it should be directed to:

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Emergency Planning Ontario
5th Floor, 27 Carlton Street
Toronto, Ontario
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(416) 965-6708

Copies of the plan have been made available to the relevant area public libraries for the information of the public. A copy of the plan is also available to the public for inspection and copying during ordinary business hours at the offices of Emergency Planning Ontario at the above address. Copies of Parts I, II and VI are available in French as well as English.

PROVINCE OF ONTARIO

NUCLEAR EMERGENCY PLAN

PART V - CHALK RIVER NUCLEAR EMERGENCY PLAN

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GLOSSARY

See Provincial Nuclear Emergency Plan, Part I, Appendix 14

DISTRIBUTION

As per Distribution List, Provincial Nuclear Emergency Plan, Part I

ACRONYMS & ABBREVIATIONS

AECB	- Atomic Energy Control Board
AECL	- Atomic Energy of Canada Limited
BNGS	- Bruce Nuclear Generating Station
BNPD	- Bruce Nuclear Power Development
CANDU	- the name of the Canadian developed nuclear power reactor system (from Canada Deuterium Uranium)
CEPO	- Coordinator, Emergency Planning Ontario
CFB	- Canadian Forces Base
COMSONT	- Communications Ontario (an amateur radio organization)
CRL	- Chalk River Laboratories
DEL	- Derived Emission Limit
DNGS	- Darlington Nuclear Generating Station
DRL	- Derived Release Limit
ECC	- Exposure Control Centre
ECDU	- Exposure Control/Decontamination Unit
EOF	- Emergency Operations Facility
E.P.Ont.	- Emergency Planning Ontario
ExecGroup	- Executive-Advisory Group
FHQ	- Field Headquarters
FNECC	- Federal Nuclear Emergency Control Centre
FPOC	- Forward Provincial Operations Centre
InfoCentre	- Information Centre
InfoGroup	- Information Group
IMO	- Ingestion Monitoring Organization
IMCG	- Ingestion Monitoring Control Group
JIC	- Joint Information Centre
JTCC	- Joint Traffic Control Centre
KI	- Potassium Iodide

ACRONYMS & ABBREVIATIONS (cont'd)

LOCA	- Loss-of-Coolant Accident
MCC	- Ministry of Culture & Communications
MCG	- Municipal Control Group
MCSS	- Ministry of Community & Social Services
MDU	- Monitoring & Decontamination Unit
Met	- Meteorology, meteorological
MNR	- Ministry of Natural Resources
MOE	- Ministry of the Environment
MOH	- Ministry of Health
MOL	- Ministry of Labour
MSG	- Ministry of the Solicitor General
MTO	- Ministry of Transportation, Ontario
OH	- Ontario Hydro
OMAF	- Ontario Ministry of Agriculture and Food
OpsCentre	- Operations Centre
OpsGroup	- Operations Group
PAD	- Public Action Directive
PAL	- Protective Action Level
PNGS	- Pickering Nuclear Generating Station
POC	- Provincial Operations Centre
PTAC	- Phase 2 Advisory Committee
PZ	- Primary Zone
rad	- See definition of Absorbed Dose in Glossary, Part I
rem	- See definition of Dose Equivalent in Glossary, Part I
TechGroup	- Technical Group
Telecom	- Telecommunications
TLD	- Thermoluminescent Dosimeter

CHAPTER 1

GENERAL

1.1 Aim

The aim of Part V of the Provincial Nuclear Emergency Plan is to prescribe the measures that shall be undertaken to deal with a nuclear emergency caused by the Chalk River Laboratories (CRL).

1.2 Scope

1.2.1 This plan deals mainly with actions at the Provincial level and shall be supplemented by the appropriate Municipal Plan (see 1.3 below). This plan shall also be read and applied in the context of Part I of the Nuclear Emergency Plan: The Provincial Master Plan.

1.2.2 This Part V Plan, together with the Part I Provincial Plan, are referred to as "the Provincial Plan" in this document.

1.3 Municipal Plan

1.3.1 The Townships of Rolph, Buchanan, Wylie, and McKay, the Town of Deep River and the Village of Chalk River are the designated municipalities with respect to CRL (Provincial Plan, Part I, Appendix 2).

1.3.2 A joint municipal plan shall be made for a CRL nuclear emergency, as per the Provincial Plan, Part I, Section 1.5. This plan shall cover the offsite emergency response arrangements and activities of the designated municipalities, appropriate county departments, appropriate local boards, local health and medical services and the local police forces. This plan is referred to as "the Municipal Plan" in this document.

1.3.3 The City of Pembroke shall act as a host municipality for evacuees from the designated municipalities, and shall make the necessary arrangements for this purpose (Provincial Plan, Part I, section 1.5 refers).

1.3.4 In this document, the terms "municipal" and "municipality" shall include, unless the context indicates otherwise, the designated municipalities (paragraph 1.3.1 above), as well as the county departments, local boards, local health and medical services and local police forces whose area of operation includes the area covered by the Municipal Plan.

1.3.5 The Municipal Plan shall provide for the development of a traffic control plan to meet the requirement prescribed in the Provincial Plan, Part I, Chapter 6.

1.4 CRL Plan

CRL has undertaken to develop a plan which would prescribe the procedures under which it would discharge the following offsite responsibilities:

(a) Notification.

(b) Timely provision of pre-designated staff to offsite emergency centres, i.e., Forward Provincial Operations Centre, Municipal Operations Centre, Joint Information Centre, Exposure Control Centre and Monitoring and Decontamination Unit (at Reception Centre).

(c) Provision of recommendations and information to the Municipal Control Group initially, and later to the (Forward) Provincial Operations Centre.*

(d) Conduct field monitoring.

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* The term "(Forward) Provincial Operations Centre" is used in this document to indicate whichever of the two centres has operational control at any given time.

CHAPTER 2

PLAN DATA AND ORGANIZATION

2.1 Chalk River Laboratories (CRL)

2.1.1 CRL is located at latitude 46° 3' north and longitude 77° 22' west on the southern side of the Ottawa River.

2.1.2 The CRL nuclear facility houses four research reactors: the NRU reactor which operates on a continuous basis at a thermal power up to a maximum of 135 MWt, the NRX which operates one shift per week and has a maximum power of 42 MWt, and the PTR and Zed-2 reactors which operate intermittently at up to 100 and 200 watts maximum respectively. Figure 1 (page 9) shows a schematic diagram of the NRU reactor.

2.1.3 CRL also houses various facilities including: accelerators, a molybdenum 99 production facility, a nuclear fuel fabrication laboratory, shielded facilities, a waste treatment centre, waste management areas, a recycled fuel fabrication laboratory and tritium handling facilities.

2.2 Planning Zones

2.2.1 Contiguous Zone

Because of the large exclusion area within the CRL boundary, no Contiguous Zone is designated for the facility.

2.2.2 Primary Zone

The Primary Zone for CRL is shown in Figure 2 (page 10). It includes, in Renfrew County, an area of the Townships of Rolph, Buchanan, Wylie and McKay, the Town of Deep River and the Village of Chalk River bounded generally by the west limits of Deep River, a line east of Leader's Road to the end of Law's Road, Maunsell Lake, Unit Lake, Orange Road and the Petawawa Township north boundary to Basil Island. CRL is not included in the Primary Zone. The exact boundaries of the zone can be determined from Appendix 1 (page 43).

The Primary Zone is the area within which it would be prudent to plan and prepare for taking Plume Exposure Control measures, such as sheltering and evacuation.

2.2.3 Secondary Zone

The Secondary Zone encompasses areas of the County of Renfrew and the District of Nipissing (Algonquin Provincial Park), within a 50 km radius of Chalk River Laboratories. The Secondary Zone is shown in Figure 3 (page 11) and includes the Primary Zone. Figure 3 also shows the sub-zones and sub-sectors of the Secondary Zone.

The Secondary Zone is the area within which it would be prudent to plan and prepare for taking Ingestion Control measures, such as banning consumption of contaminated food items.

2.3 Response Sectors

2.3.1 The Primary Zone for CRL is divided into 7 response sectors which lie as follows:

(a) Town of Deep River - Sectors 1-2

(b) Rolph, Buchanan, Wylie & McKay Township - Sector 3

(c) The Village of Chalk River - Sector 4

(d) CFB Petawawa - Sectors 5-6

(e) Ottawa River - Sector 7 (and portions of Sectors 1,2 and 6)

2.3.2 For reference purposes the area of the Province of Quebec adjacent to CRL is divided into three sectors: Q1-3.

2.3.3 The boundaries of the Response Sectors are shown in Figure 2 (page 10), and are detailed in Appendix 1 (page 43).

2.4 Planning Data

2.4.1 Population

Estimates are contained in Appendix 2 (page 45).

2.4.2 **Institutions**

Data on daycare centres, schools, hospitals and senior citizen and nursing homes is contained in Appendix 2 (page 45).

2.4.3 **Standard Lead Times for Protective Measures**

These are given for each Response Sector in Appendix 3 (page 46). Also given therein are alerting times.

2.4.4 **Evacuation Data**

Estimates of the transportation requirements and the time required for evacuation of each Response Sector are contained in Appendix 4 (page 47).

2.5 Emergency Organization

2.5.1 The emergency management organization for dealing with a CRL emergency shall be as prescribed in the Provincial Plan, Part I with the following modifications:

(a) A Forward Provincial Operations Centre shall be set up in Pembroke (for details, see 2.6 below).

(b) A Joint Information Centre shall be set up in Pembroke, which shall carry out the combined functions of the Provincial and Local Information Centres (for details, see 2.7 below).

2.5.2 The designated municipalities shall set up a Municipal Control Group as per Chapter 4 of the Provincial Plan, Part I. Appropriate county departments, local boards, local health and medical agencies and local police forces shall provide representatives to assist and liaise with the Municipal Control Group.

2.5.3 The following regional/district/area offices of Provincial ministries shall be prepared to respond to the emergency and provide the necessary assistance to the designated municipalities, as required by the Provincial Plan (for details, see Appendix 8 of Part I), the Municipal Plan, or as directed by their respective ministries:

(a) **Agriculture & Food**

Renfrew County Office

(b) Community & Social Services

Ottawa Area Office
Southeast Region Office
Pembroke Local Office

(c) Environment

Southeastern Region Office

(d) Health

Eastern Region #4
Renfrew Provincial Ambulance and Central Communications Centre

(e) Natural Resources

Algonquin Region
Pembroke District Office

(f) Solicitor General (Ontario Provincial Police)

District No. 10

(g) Transportation

District No. 9
District No. 13

2.6 Forward Provincial Operations Centre

2.6.1 Because of the distance between Toronto and CRL, and possible telecommunications problems, a Forward Provincial Operations Centre shall be established in Pembroke as soon as possible to control the emergency management operation. Initially, such control shall be exercised from Toronto, but shall be transferred to the Forward Provincial Operations Centre as soon as it is ready to function. A formal notification to this effect, specifying the time of the transfer of control, shall be sent to all concerned.

2.6.2 When the Provincial Plan is activated (or earlier, if considered appropriate), staff of the Forward Provincial Operations Centre required to move from Toronto shall so move to its site in Pembroke. Staff based locally shall assemble at the Centre location and set up the facility.

The Coordinator, Emergency Planning Ontario, shall be responsible for making all necessary advance preparations and the arrangements for this move of staff, which shall be by air.

2.6.3 When the Forward Provincial Operations Centre has assumed control of operations, it shall be responsible for carrying out all the functions and responsibilities assigned to the Provincial Operations Centre in the Provincial Plan. At this stage the Provincial Operations Centre in Toronto shall become a backup and support facility.

2.6.4 The organization of the Centre is given in Figure 4 (page 12). As many of the staff as possible shall be obtained locally.

2.7 Joint Information Centre

2.7.1 A Joint Information Centre (JIC) shall be set up in Pembroke to carry out the combined functions of the Provincial and Local Information Centres. For details, see Chapter 7, page 40.

2.7.2 The JIC shall be a combined centre through which the Province, the local municipalities and AECL/CRL shall provide information to the media and, through them, to the public.

2.7.3 The organization of the Centre is given in Figure 5 (page 13). Staff for the JIC shall be provided by the participating organizations, who shall also be responsible for making the necessary advance preparations and the arrangements for such staff to move expeditiously to Pembroke from other locations.

2.7.4 The overall responsibility for the JIC shall be shared as follows:

(a) The (Provincial) Director of Emergency Information shall be responsible for prescribing the organization and procedures for the centre, making the staffing arrangements, and providing for a Provincial spokesperson at the centre.

(b) CRL has agreed to equip and administer the centre, and provide a manager, a CRL spokesperson and other staff, as agreed, for the centre.

(c) The local municipalities shall provide a municipal spokesperson and other staff, as agreed, at the centre.

2.8 Emergency Facilities

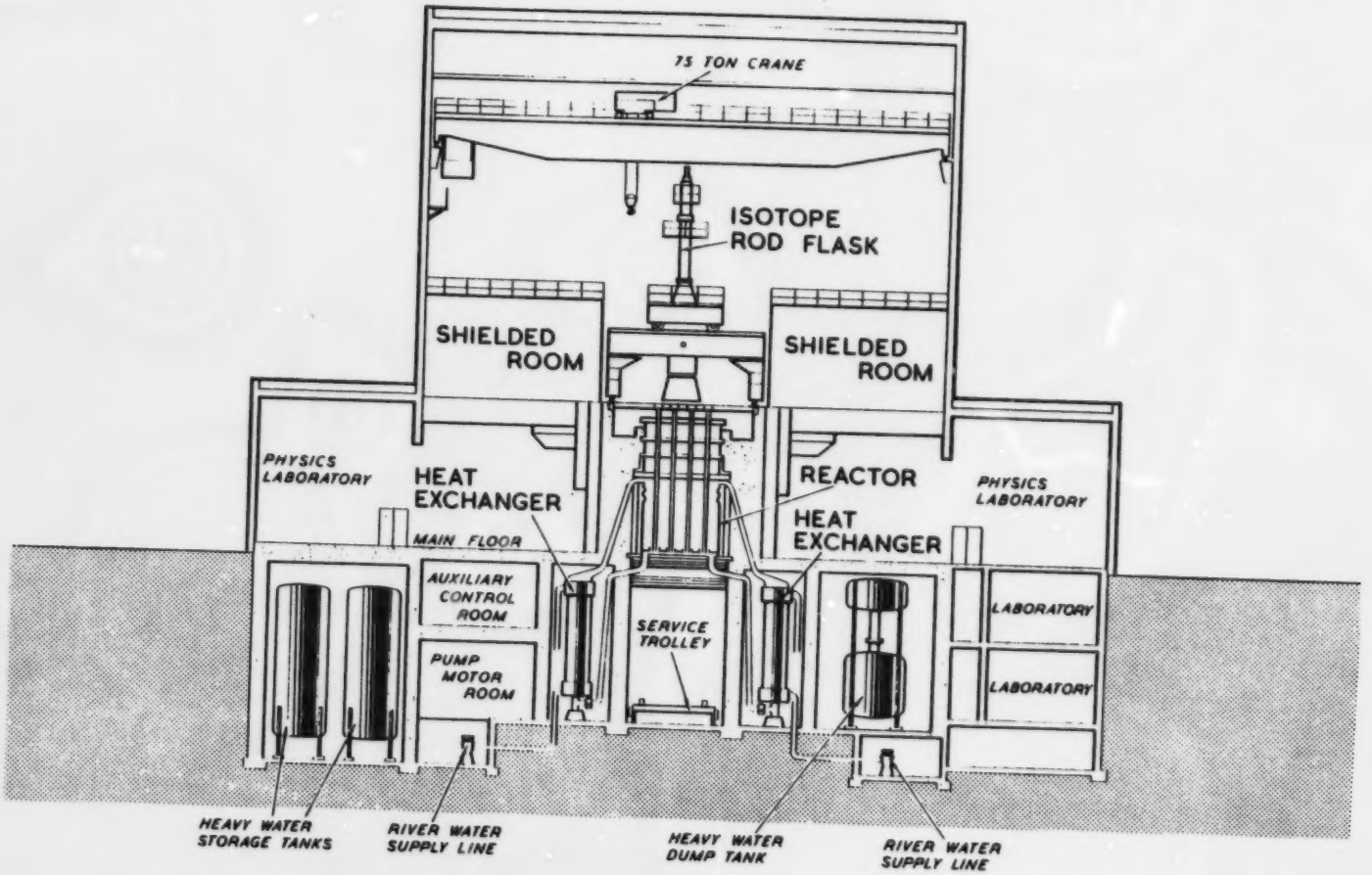
The various emergency centres and facilities required to be established under this plan will be located as shown in Appendix 5 (page 49). These locations have been selected by the municipalities and organizations concerned.

2.9 Telecommunications

2.9.1 All emergency centres and facilities are linked through the Bell telephone system. Backup telecommunication is provided through radio.

2.9.2 All organizations and agencies involved in responding to a CRL nuclear emergency shall ensure that those of their essential telephones which need to make outgoing calls during an emergency are covered by the Line Load Control program.

FIGURE 1: NRU REACTOR SCHEMATIC DIAGRAM



NORTH – SOUTH CROSS SECTION NRU BUILDING

FIGURE 2: PRIMARY ZONE AND RESPONSE SECTORS

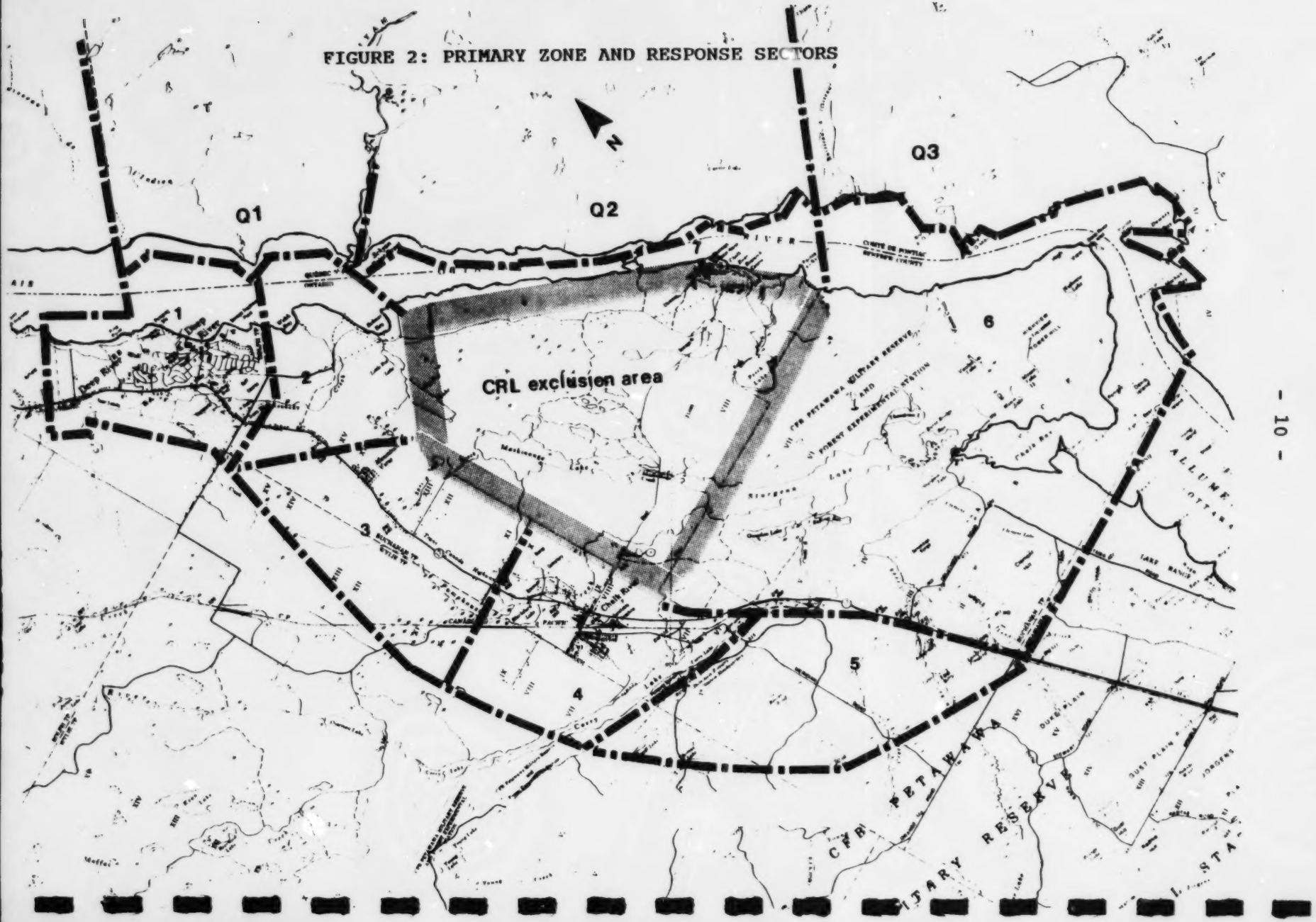


FIGURE 3: SECONDARY ZONE AND SUB-SECTORS

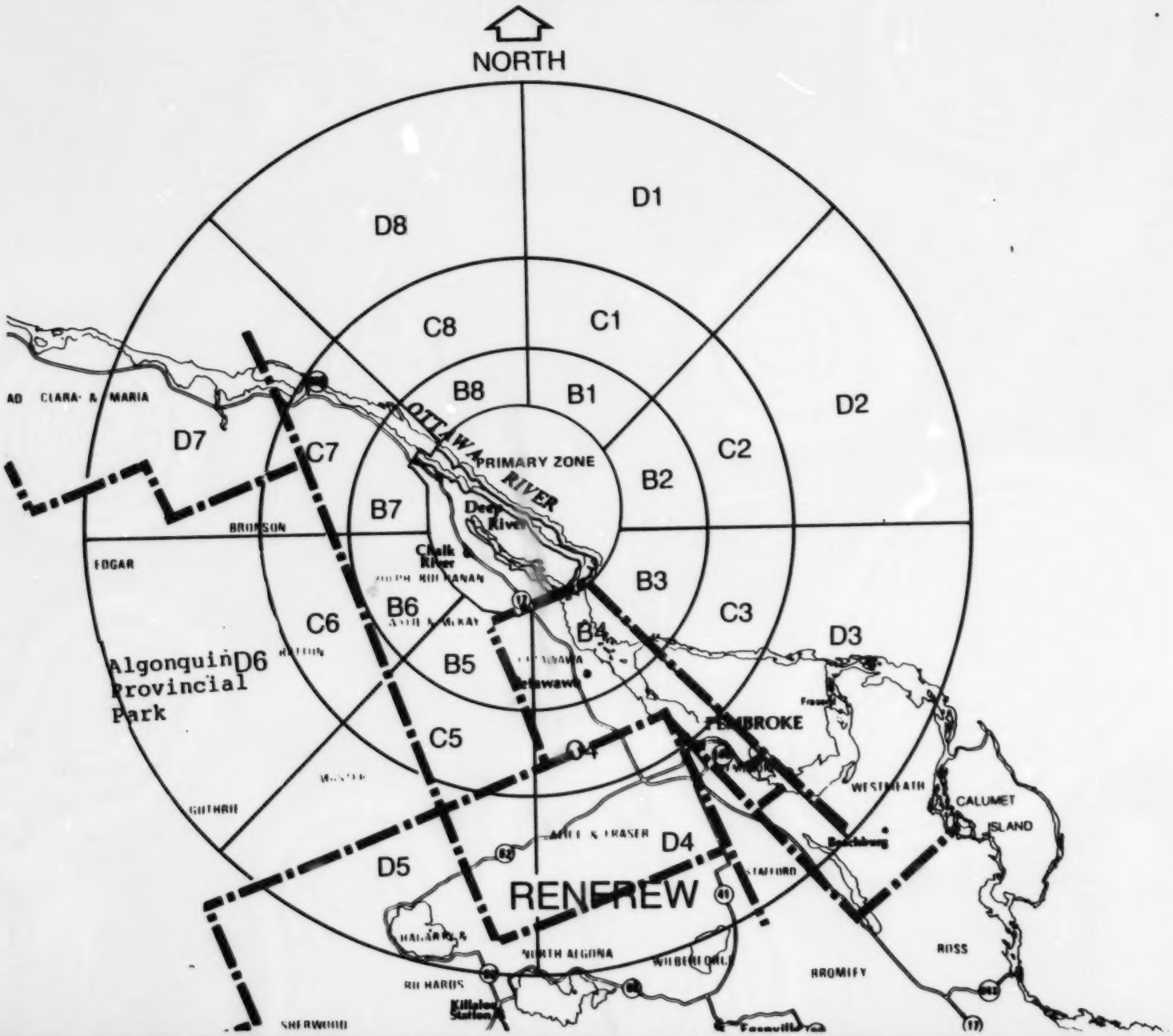
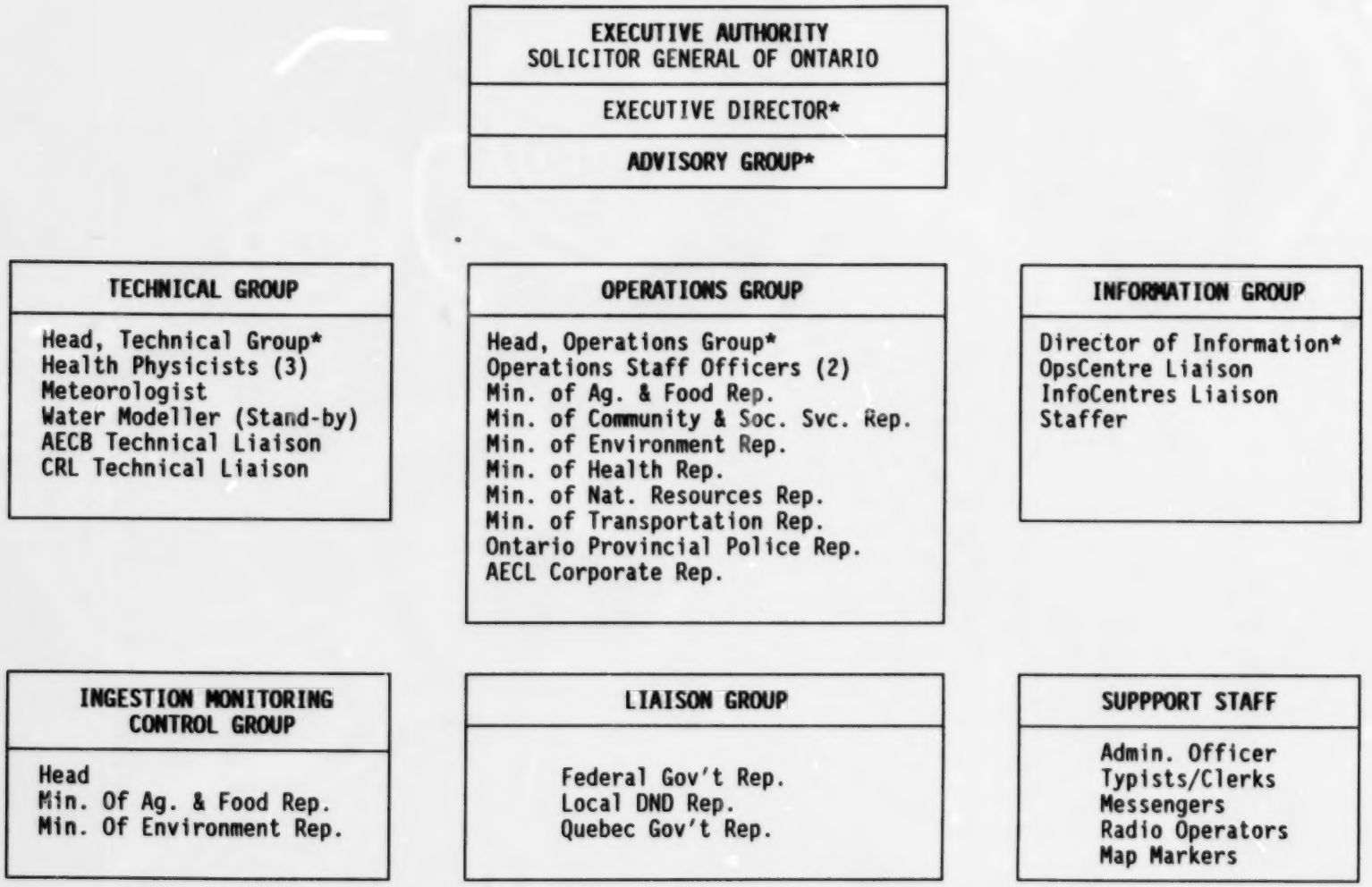
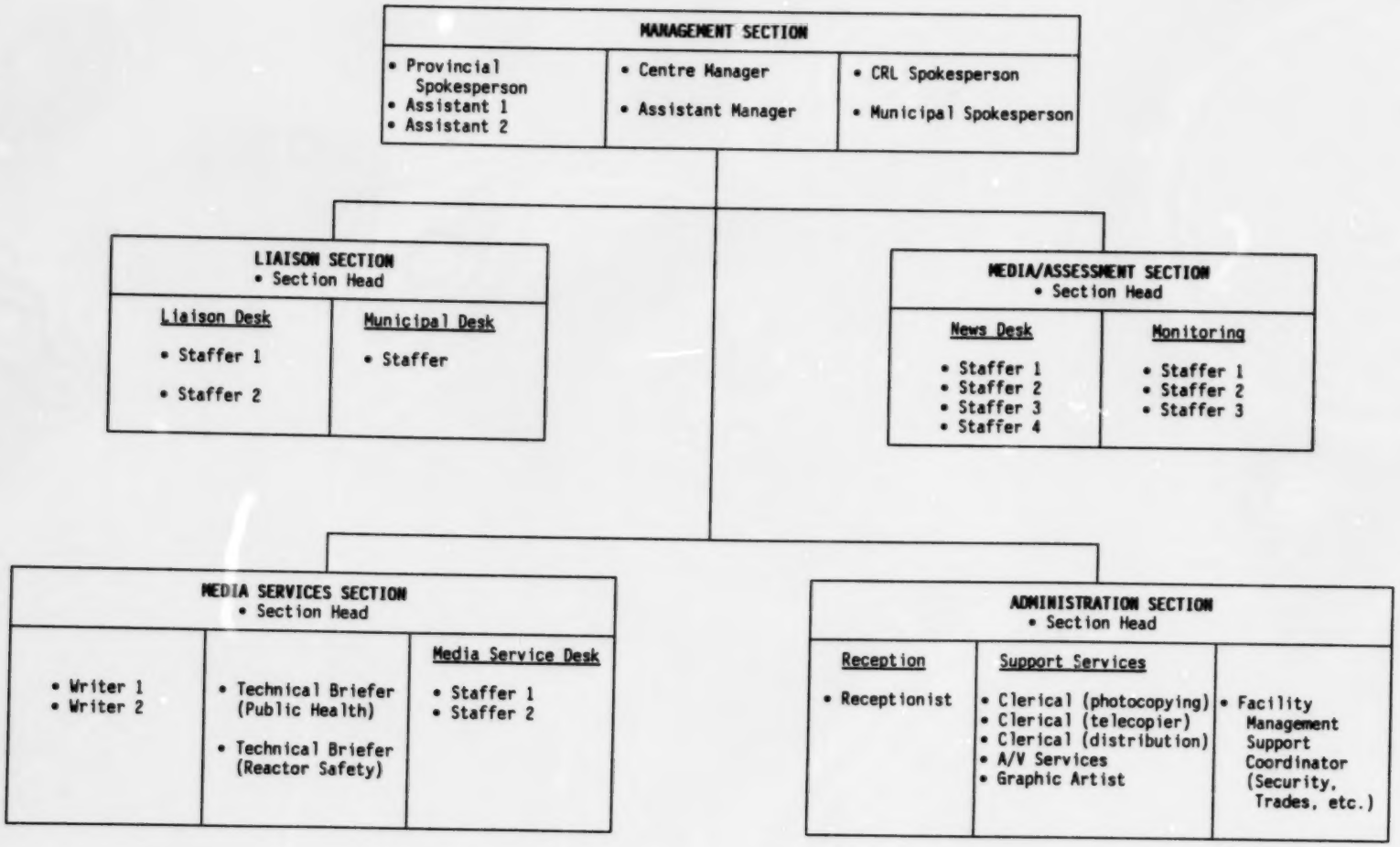


FIGURE 4: FORWARD PROVINCIAL OPERATIONS CENTRE



* Persons so marked constitute the Advisory Group

FIGURE 5: JOINT INFORMATION CENTRE



CHAPTER 3

NOTIFICATION

3.1 General

3.1.1 This chapter covers the notification system used in the standard case, i.e., a CRL atmospheric emission, by itself or concurrent with a liquid emission. In such cases it is expected that operations would be conducted so that Phase 1 would precede Phase 2.

3.1.2 However, in certain cases (namely, for a purely liquid emission from CRL, and for certain transborder accidents) Phase 1 operations would not be required, and the Provincial Plan will be activated for Phase 2 operations only. The notification system described below would not apply in full in such cases. The differences are dealt with in Chapter 6 below (for a purely liquid emission) and in Part VIII of the Provincial Nuclear Emergency Plan (for transborder emergencies).

3.2 Initial Notification

3.2.1 CRL shall notify the pre-designated contact points in the Provincial and Municipal emergency organizations as soon as (but no later than 15 minutes after) conditions arise at the station which require such notification under the criteria contained in Chapter 5 of the Provincial Plan, Part I.

3.2.2 CRL shall assign an appropriate category to the notification as prescribed in the Provincial Plan, Part I. If at any time after the initial notification CRL concludes that the category has changed, a notification to this effect shall immediately be made to all concerned.

3.2.3 A Category 1 notification shall be made only to the Province, and not to the municipalities. In this case, the Coordinator, Emergency Planning Ontario, shall monitor the situation and keep the municipalities informed of developments, as appropriate.

3.2.4 The Provincial contact point shall be the 24-hour Duty telephone at the OPP General Headquarters. The municipal contact point shall be designated in the Municipal Plan.

3.2.5 The Province may review and, if considered appropriate after consultation with the nuclear facility, revise the notification category assigned by CRL. This revised category shall then be communicated to the municipalities and other agencies, and shall supersede the current one.

3.3 Internal Notification and Activation

3.3.1 Provincial

(a) When CRL initiates an emergency notification, the Coordinator, Emergency Planning Ontario (or, where necessary, alternates) shall monitor the situation, place the Provincial emergency organization on standby, or activate it as per section 6.1 of the Provincial Plan, Part I. In the latter two cases, the Provincial notification callout shall be initiated. The notification message shall include the notification category.

(b) If the plan is placed on standby, the Coordinator shall continue to monitor the situation, obtain technical advice and shall activate the plan when considered appropriate or when a new notification requiring this is received from the plant.

(c) The members of the Phase 2 Advisory Committee shall be notified by the Provincial Operations Centre at an appropriate time towards the end of Phase 1.

(d) The notification procedure for the members of the Joint Information Centre shall be prescribed in its operating procedure.

(e) The notification procedure for the members of the Ingestion Monitoring Organization (IMO) shall be prescribed in the IMO procedures.

(f) The following ministries and agencies shall issue their own internal notification and activation procedures and lists, which should include their appropriate regional and area/district offices (see 2.5.3 above):

Ministry of Agriculture & Food
Ministry of Community & Social Services
Ministry of Culture & Communications
Ministry of the Environment
Ministry of Health
Ministry of Natural Resources
Ministry of Transportation
Ontario Provincial Police

(g) **All of the above-mentioned notification procedures shall provide for immediate activation of their respective organizations (less the IMO) upon receipt of a Category 3 emergency notification, or upon activation of the Provincial Nuclear Emergency Plan.**

(h) The notification lists mentioned in (c) through (f) above shall be updated and, if necessary, re-issued every six months, or more often if appropriate.

3.3.2 <u>Municipal</u>

(a) The Municipal Plan shall prescribe the internal municipal notification and activation procedure. Municipal departments/agencies shall set up their own internal notification and activation procedures. These procedures shall ensure that all elements of the municipal response organization can be expeditiously notified when required. **They shall also provide for immediate activation of all plans upon receipt of a Category 3 notification, or upon activation of the Provincial Nuclear Emergency Plan.** (Note: This does not apply in the case of a liquid emission [paragraph 6.5.1, page 38], nor in the case of an activation of the Provincial Plan for Phase 2 operations only).

(b) The Municipal Plan shall provide for the placing of the Municipal emergency organization on standby or its activation depending on the notification message received as per Table 4.1 (page 28).

3.3.3 Others

Other organizations which are affected and need to notify their members at the onset of a nuclear emergency, shall set up their own internal notification procedures, and shall implement them according to the content of the emergency notification received by them. These procedures shall provide for immediate activation of emergency plans in case of a Category 3 notification, or when the Provincial Nuclear Emergency Plan is activated. (Note: This does not apply in the case of a liquid emission, nor in the case of an activation of the Provincial Plan for Phase 2 operations only).

3.4 External Notification

3.4.1 The Federal Government and the Province of Quebec shall be notified as part of the Provincial notification callout.

3.4.2 Certain other agencies/organizations, which need to be notified early, shall be so notified by the following who shall set up in advance the necessary procedures for doing so:

(a) Ministry of Agriculture & Food shall notify:

The Ontario Milk Marketing Board.

(b) Ministry of Community & Social Services shall notify:

Red Cross, Ontario Division
St. John Ambulance, Ontario Council

(c) Ministry of Culture & Communications shall notify:

Bell Canada
CNCP Telecom

(d) Ministry of Natural Resources shall notify:

Algonquin Provincial Park.

(e) Ministry of the Solicitor General shall notify:

Designated Media

(f) Ministry of Transportation shall notify:

National Transportation Agency - Emergency Alert
CP Rail
Air Traffic Control

(g) The Municipal Plan shall provide for the notification of:

County of Renfrew
City of Pembroke
County of Renfrew Board of Education
County of Renfrew Separate School Board
Local utilities (Hydro, Gas, Water)
Local branches of voluntary organizations

3.5 Public Notification - Initial

3.5.1 Notification to the public of the occurrence or imminence of a nuclear emergency shall be carried out as follows:

(a) The public in the Primary Zone shall be alerted by means of sound signals, which would indicate to them the need to tune to pre-designated radio/TV stations listed in the public education brochure distributed throughout the Primary Zone.

(b) An appropriate announcement will be issued by Emergency Planning Ontario to the Designated Media and will be broadcast by them.

3.5.2 The public alerting referred to in (a) above shall be carried out under municipal arrangements, and these shall be specified in the Municipal Plan. This alerting shall be initiated as soon as the Municipal Plan is activated, and shall be completed as soon as possible. Alerting times for sectors, as estimated by the local police departments, are contained in Appendix 3 (page 46).

CHAPTER 4

OPERATIONS - PHASE 1

4.1 Introduction

4.1.1 Scope

This chapter deals with the emergency response in case of a radioactive emission to the atmosphere, or such an emission combined with a liquid emission. Emergency response in case of a purely liquid emission is dealt with in Chapter 6.

4.1.2 Nature of Offsite Effects

The offsite effects from an accident at CRL are likely to differ from those caused by a power generating reactor accident. The main features of a CRL reactor accident would be:

- radioactivity would be emitted to the environment commencing at the time of the accident
- the emission of significant airborne radioactivity would cease within 10-60 minutes of its commencement
- thereafter, the main offsite hazard would be from the deposited radioactivity.

4.1.3 Overview of Operations

The standard sequence of operations during Phase 1 is as follows:

(a) Notifications (Chapter 3).

(b) Appropriate response to the notifications, including, where necessary, activation of plans and the automatic implementation of certain immediate actions (sections 4.2 to 4.5 below).

(c) If appropriate, the implementation of protective measures by the municipality (section 4.7 below).

(d) The Province will declare a Provincial emergency and will assume control of operations (sections 4.8 and 4.9 below).

(e) Upon assuming control, the Province will assess the need for certain initial measures, and will institute those considered necessary (section 4.10 below).

(f) The Province will carry out an ongoing assessment of the situation and will order appropriate protective and operational measures (sections 4.10 and 4.11 below).

(g) At an appropriate time the Province will order the commencement of ingestion monitoring (section 4.12 below).

(h) When the radiation emissions from the nuclear facility have ended, and there is no risk of further uncontrolled emissions, the Province will rescind, as appropriate, the protective measures imposed, and allow or arrange for the return of evacuees, where safe. A smooth transition will be made from Phase 1 to Phase 2 (section 4.13 below).

4.1.4 <u>Special Features - CRL Emergency</u>

Due to the different nature of a CRL accident (4.1.2 above), a CRL emergency and the response to it are likely to have the following special features:

(a) The initial notification from CRL would be either a Category 1 or a Category 3 notification. The latter would trigger the activation of Provincial and Municipal Plans and the automatic implementation of the Category 3 measures (4.4 and 4.5.1 below).

(b) CRL would make recommendations to the municipalities on protective measures, if any are required, either with the initial notification, or very soon thereafter (4.7.1 below).

(c) Since the main hazard will be from deposited radioactivity, it is necessary for CRL to establish the extent of this, especially in populated areas, at a very early stage (4.6 below).

4.2 Category 1 Notification - Response

A Category 1 notification does not require activation of any emergency plans, and is made only to the Province. The Province will monitor the situation, and keep the municipalities apprised as and when appropriate. In the event that the notification category is upgraded, either by CRL or by the Province, a new notification shall be made to the municipalities and all others concerned, and action shall be taken as appropriate to that category (see below).

4.3 Category 2 Notification - Response

The normal response to a Category 2 notification shall be the placing of emergency organizations on standby by the Province, municipalities and other agencies, and the setting up of Provincial and Municipal Operations and Information Centres, Ministry operations rooms and the Exposure Control Centres. The situation will be continuously monitored by the Province. If conditions at CRL revert to normal and no further action is required, the Province will issue a stand-down advisory to all concerned. If, on the other hand, further action is necessary, the Province will activate the Provincial and Municipal Plans and, if necessary, upgrade the notification category to 3. All other emergency plans shall be immediately activated, and the appropriate actions implemented (see Table 4.1, page 28).

4.4 Category 3 Notification - Response

Whenever the nuclear facility or the Province makes a Category 3 notification, all emergency plans and organizations shall be immediately activated. Any measures, prescribed in the plans as requiring automatic implementation on a Category 3 activation, shall be implemented (see Table 4.1, page 28).

4.5 Immediate Actions

4.5.1 Depending on whether plans are being placed on standby or activated, and the notification category, certain immediate actions shall be taken at the Provincial and municipal levels. These are tabulated in Table 4.1 (page 28).

4.5.2 The Municipal Plan and the plans of all affected ministries, agencies and other organizations shall provide for these immediate actions to be carried out automatically upon receipt of the relevant notification message.

4.6 Field Monitoring by CRL

In fulfilment of its obligations under the Provincial Plan, CRL shall carry out the following field monitoring in the Primary Zone in the order of priority shown:

(a) Take measurements at or near the CRL boundary in order to confirm model predictions.

(b) Take measurements of doserates and dose (by means of pre-sited TLDs) in populated Response Sectors and on Highway 17 in the downwind direction. Also take ground swipes and retrieve filters from air samplers to establish radionuclide composition of contamination.

(c) Survey other sectors (i.e., not downwind) with resident populations to obtain negative confirmation.

(d) Build up a full radiological picture of the plume "footprint" starting with populated areas nearest the site boundary.

(e) Before any monitoring teams are sent into Sectors 5 or 6, CRL shall contact the Base Operations Officer, CFB Petawawa, and arrange for guides/escorts.

4.7 Protective Measures by Municipality

4.7.1 Protective Measures - Immediate

If there is an ongoing radioactive emission at the time of making the initial notification (3.2.1 above), CRL shall include in the message a recommendation for sheltering in any sectors likely to be affected. If, based upon the CRL situation and prognosis, certain additional protective measures are required to be implemented immediately in any sectors of the Primary Zone, CRL shall so recommend in the initial notification message.

The Municipal Plan shall prescribe how such a recommendation is to be dealt with before the MCG is functional, and the official(s) and alternate(s) who shall act upon the recommendation.

4.7.2 **Preparatory Measures**

If the Province has not yet assumed operational control, the Municipal Control Group, upon assembly following activation of the Municipal Plan, shall consider, in consultation with the Coordinator, Emergency Planning Ontario, the desirability of imposing any or all of the following preparatory measures:

(a) Closing of beaches and recreation areas in the whole Primary Zone.

(b) Suspension of work in the whole Primary Zone or in certain sectors only.

(c) Restriction of non-critical hospital admissions in the Primary Zone.

(d) Stage 2 traffic control.

The Coordinator, Emergency Planning Ontario, shall issue the necessary public announcements regarding any measure agreed to with the Municipal Control Group.

4.7.3 **Protective Measures - Later**

After the initial notification and before the Province assumes operational control CRL shall recommend to the MCG imposition of any protective measure listed in Table 4.2 (page 31) should that become necessary under the technical criteria prescribed in the Provincial Plan. The Head MCG shall decide on appropriate action on such recommendations, factoring in operational considerations such as weather, readiness of the emergency organization, etc.

4.8 **Declaration of a Provincial Emergency**

4.8.1 The Coordinator, Emergency Planning Ontario, shall arrange for the declaration of a Provincial emergency, as provided for in Appendix 5, Provincial Plan, Part I. This should preferably occur prior to the assumption of operational control by the Province.

4.8.2 Normally, the area to be covered initially by a Provincial declaration for a CRL emergency shall be the County of Renfrew and the District of Nipissing. This can be enlarged later on if so required.

4.9 Provincial Assumption of Control

4.9.1 The Province may assume control of operations at any time but will normally do so through the Provincial Operations Centre and when the following requirements are met:

(a) The Provincial Operations Centre is ready to function.

(b) The necessary telecommunication links are functional.

4.9.2 Notification of Provincial assumption of control shall be formally made by the Province to all concerned, specifying the time at which this control will become effective.

4.9.3 From the time at which Provincial control goes into effect, the following shall apply:

(a) CRL shall cease to make recommendations or provide information to the Municipal Control Group (MCG). Formal communications shall cease between the nuclear facility and the CRL liaison person at the MCG. Information on the situation at CRL will be provided to the MCG by the Province.

(b) Directives on protective action shall be issued to the Municipal Control Group from the (Forward) Provincial Operations Centre*. The MCG should complete any protective action being implemented at the time of takeover, but thereafter no other protective, preparatory or precautionary measure relating to the nuclear emergency shall be undertaken by the MCG without the direction or concurrence of the (Forward) Provincial Operations Centre* (or the Coordinator, Emergency Planning Ontario).

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* The term "(Forward) Provincial Operations Centre" is used in this document to indicate whichever of the two centres has operational control at any given time.

4.9.4 When the Forward Provincial Operations Centre at Pembroke is functional, control of operations shall be transferred to it from the Provincial Operations Centre in Toronto, and all concerned shall be notified of the handover. See section 2.6, page 6.

4.10 Protective Measures by the Province

4.10.1 Preparatory Measures

The Provincial Operations Centre shall, immediately after assuming operational control, consider the desirability of imposing any or all of the preparatory measures listed in 4.7.2 above if not already imposed.

The Provincial Operations Centre shall also consider the desirability of imposing, as a precaution, any of the protective measures listed in Table 4.2 (page 31).

An assessment shall be made of the need to extend any of the Ingestion Control Measures listed in Table 4.2 (page 31) to areas beyond the Primary Zone.

4.10.2 Protective Measures

Based on a continuous assessment of future projections of how the situation may develop (section 6.2, Provincial Plan, Part I), the (Forward) Provincial Operations Centre shall decide on and order appropriate protective measures (Table 4.2, page 31) during the course of Phase 1. These measures shall be implemented by the municipality and other appropriate agencies. Guidance on implementation is contained in the Provincial Plan, Part I, Appendix 7.

4.11 Evacuations

4.11.1 Evacuations, if considered necessary, shall be carried out by Response Sector, according to the outline evacuation plan given in Appendix 4 (page 47). All evacuees shall proceed via the Reception Centre where they shall be monitored for radioactive contamination, and can receive other assistance.

4.11.2 It is expected that most residents will be able to evacuate under their own arrangements. Vehicles shall be provided, under municipal arrangements, to

move those evacuees who are unable to furnish their own transportation (some estimates are contained in Appendix 4, page 47).

4.11.3 Ambulances and special vehicles shall be made available, under municipal arrangements, to those residents requiring special transportation.

4.11.4 The Municipal Plan shall include the arrangements by which residents may obtain such alternate means of transportation.

4.11.5 Schools and special care institutions shall evacuate (via the Reception Centre) to similar establishments outside the Primary Zone, with whom prior arrangements should be made.

4.11.6 The smooth and expeditious movement of evacuee traffic shall be the responsibility of the traffic control organization set up under the municipal traffic control plan.

4.11.7 Medical support to any evacuation shall be provided by the local ambulance services and hospitals under municipal arrangements.

4.11.8 The reception and care of evacuees shall be provided for in the Municipal Plan, which should include a letter of agreement executed with the host municipality, the City of Pembroke.

4.11.9 CRL shall prepare its own plans for the evacuation of onsite personnel in consultation with the Province. However any large-scale evacuation of onsite personnel shall be carried out by the CRL after giving prior notice of its intention to the (Forward) Provincial Operations Centre or the Municipal Control Group, whichever is controlling operations, and at timings agreed to with the latter.

4.12 Ingestion Monitoring

The field elements of the Ingestion Monitoring Organization shall be directed by the Provincial Operations Centre, at an early stage, to move to the local area. When the situation is considered to have stabilized, the Executive Director, (Forward) Provincial Operations Centre, shall direct the Ingestion Monitoring Control Group to commence field monitoring for ingestion control purposes.

4.13 Transition to Phase 2

The Executive Director, (Forward) Provincial Operations Centre, shall carry out the relevant provisions of Chapter 6, Provincial Plan, Part I, at the appropriate stage. This will result in the rescinding of the protective measures ordered, including the return of most, if not all, evacuees. The Phase 2 Advisory Committee shall be convened.

4.14 Emergency Worker Safety

4.14.1 At the commencement of an emergency, the Response Sectors in the Primary Zone shall be assumed to carry the following safety status (Provincial Plan, Part I, Chapter 6, refers):

Category 1 or 2 notification
- All sectors : GREEN

Category 3 notification
- All sectors : YELLOW

4.14.2 If appropriate, CRL may recommend changes to the above sector safety status to the Municipal Control Group prior to Provincial assumption of control.

4.14.3 When the Province assumes operational control, the (Forward) Provincial Operations Centre shall, as early as is feasible, assign a safety status to each Response Sector and inform all concerned. These allocations shall be periodically updated.

4.14.4 The (Forward) Provincial Operations Centre, the Municipal Control Group, and all other affected organizations shall ensure that emergency workers are kept informed of the current sector safety status.

4.14.5 Emergency workers entering sectors assigned a safety status other than GREEN shall first report to an Exposure Control Centre, and shall observe the precautionary measures prescribed by the Centre and in the Provincial Plan, Part I, Appendix 4. The municipalities and other affected organizations shall ensure that any such workers can be provided with self-reading pocket dosimeters, KI pills and TLD badges before the Exposure Control Centre becomes functional.

TABLE 4.1 - IMMEDIATE ACTIONS IN RESPONSE TO NOTIFICATION

Notification Category and Action	Immediate Actions	
	Provincial	**Municipal**
Category 1 ***Monitor***	CEPO shall monitor the situation and keep municipalities apprised.	No action required unless notification category is upgraded and/or further instructions given by Province.
Category 2 (excluding a LIQUID EMISSION) ***Standby***	(1) CEPO shall initiate notification placing the Provincial emergency organization on standby. (2) Provincial OpsCentre shall be set up (but not staffed). (3) Forward Provincial OpsCentre shall be set up (but not staffed). (4) Joint InfoCentre shall be set up (but not staffed). (5) Operations rooms for Ministry Emergency Action Groups shall be set up (but not staffed). (6) Arrangements shall be made to fly the staff of the Forward Provincial OpsCentre and Joint InfoCentre to Pembroke from Toronto.	(1) Municipal contact point shall initiate notification placing municipal organization on standby. (2) Municipal OpsCentre shall be set up (but not staffed). (3) Exposure Control Centres at Pt. Alexander and at Mattawa Camp shall be set up (but not staffed).

TABLE 4.1 - IMMEDIATE ACTIONS IN RESPONSE TO NOTIFICATION (cont'd)

Notification Category and Action	Immediate Actions	
	Provincial	**Municipal**
Category 2 (Excluding a LIQUID EMISSION)	(1) CEPO initiates appropriate notification.	(1) Head, Municipal Control Group, shall initiate notification activating municipal plan.
Activation	(2) Provincial OpsCentre shall be set up and staffed.	(2) Head, Municipal Control Group, shall initiate notification of the public (section 3.5, page 18).
	(3) Joint InfoCentre shall be set up and staffed.	(3) Municipal OpsCentre shall be set up and staffed.
	(4) Ministry Emergency Action groups shall assemble in their operations rooms.	(4) Reception Centre, Exposure Control Centre and at least one Evacuee Centre shall be set up and staffed.
	(5) Staff of the Forward Provincial OpsCentre and Joint InfoCentre shall move to its site.	(5) Emergency organizations of appropriate municipal departments shall be activated.
	(6) The field elements of the Ingestion Monitoring Organization shall proceed to their forward rendezvous.	(6) A municipal emergency shall be declared.
		(7) The Traffic Control Plan shall be activated and Stage 1 shall be automatically implemented.

TABLE 4.1 - IMMEDIATE ACTIONS IN RESPONSE TO NOTIFICATION (cont'd)

Notification Category and Action	Immediate Actions	
	Provincial	**Municipal**
Category 3 (excluding a LIQUID EMISSION) ***Activation***	(1) CEPO shall initiate notification activating the Provincial Plan. (2) All the actions listed at (2) to (6) above shall be carried out. (3) Ontario Provincial Police shall warn marine craft to remain clear of river portions of sectors 1,2,6 and 7. (4) MTO shall notify Air Traffic Control to direct aircraft to avoid flying over the Primary Zone. (5) MTO shall advise CP Rail to remove and keep all rail traffic out of Sectors 3,4 and 5 of the Primary Zone. CP Rail shall notify the Provincial Operations Centre, through MTO, if any train was passing through these sectors at or shortly before the time of notification, and seek instructions regarding it.	(1) Municipal contact point shall initiate notification activating municipal plan. (2) Head, Municipal Control Group, shall initiate notification of the public (section 3.5, page 18). (3) Municipal OpsCentre shall be set up and staffed. (4) Reception Centre, Exposure Control Centre and one Evacuee Centre shall be set up and staffed. (5) Emergency organizations of appropriate municipal departments shall be activated. (6) A municipal emergency shall be declared. (7) The Traffic Control Plan shall be activated, and stages 1 and 2 shall be put into effect.

TABLE 4.2 - PHASE 1 PROTECTIVE MEASURES

A. **Exposure Control Measures**

1. Entry Control (the specific measures possible are listed on page 29 as items (3) through (5) under "Provincial" actions).

2. Sheltering.

3. Evacuation.

4. Ingestion of Potassium Iodide (KI) Pills.

B. **Ingestion Control Measures**

1. Banning consumption of any item which may have been exposed outdoors.

2. Banning consumption of locally produced milk.

3. Banning the export outside the Primary Zone of any milk, meat, produce and milk- or meat-producing animals.

4. Removing animals from outside pasture and sheltering them with covered feed and water.

C. **Water Control**

One or more of the following water supply plants in or near the Primary Zone may require to have their intakes shut off if there is any risk of their intake supply being contaminated:

Chalk River Water Filtration Plant

Pembroke Water Filtration Plant

Petawawa Water Filtration Plant

CHAPTER 5

OPERATIONS - PHASE 2

5.1 General

5.1.1 Phase 2 operations will normally follow Phase 1 operations. However, in certain cases the Provincial Plan may be activated for Phase 2 operations only (namely, in the case of a purely liquid emission and for most transborder accidents). The general conduct of Phase 2 operations will be the same in all circumstances, though details will vary depending on whether Phase 2 operations follow Phase 1, or whether the problem is a liquid emission or a transborder accident.

5.1.2 This chapter covers Phase 2 operations following Phase 1. Phase 2 operations in the case of a liquid emission are covered in Chapter 6 below. Phase 2 operations for a transborder emergency are dealt with in the Provincial Plan, Part VIII.

5.2 Overview

5.2.1 During Phase 2 the main activity will be:

(a) Ingestion Control operations (monitoring of the food chain and water supplies for possible radioactive contamination, and taking appropriate measures if any is found. These measures are listed in the Provincial Plan, Part I, Chapter 2).

(b) Restoration operations (measures to restore conditions to normal, including assessment and payment of compensation for losses, if any).

5.2.2 The Provincial organization for Phase 2 operations is shown in Figure 8 of the Provincial Plan, Part I.

5.2.3 The normal municipal organization should be able to handle Phase 2 operations within the municipality. If considered desirable, the Municipal Control Group may continue into Phase 2.

5.3 Area of Operations

Phase 2 operations may extend to the outer limits of the Secondary Zone (Figure 3, page 11), but are likely to be confined only to those areas of the zone subjected to the plume during Phase 1. Some of the following municipalities may be involved in Phase 2 operations:

(a) County of Renfrew

City of Pembroke

Town of Deep River

Villages of Chalk River and Petawawa

Townships of: Westmeath; Pembroke; Petawawa; Wilberforce; North Algoma; Stafford

The combined townships of Alice and Fraser; Hagerty and Richards; Rolph, Buchanan, Wylie and McKay; Head, Clara and Maria; Sherwood Jones and Burns.

(b) District of Nipissing

Portions of Algonquin Provincial Park.

5.4 Field Monitoring

During Phase 2, field monitoring shall be carried out as follows:

(a) The field elements of the Ingestion Monitoring Organization shall carry out ingestion monitoring in the Secondary Zone.

(b) Ingestion monitoring throughout the province shall be carried out by implementation of the plan for General Province-wide Monitoring (Provincial Plan, Part I, Chapter 5 refers).

(c) Monitoring teams provided by CRL shall carry out field monitoring for restoration purposes in the Primary Zone.

These monitoring operations may be supplemented by the use of other monitoring resources that may become available.

5.5 Ingestion Control Operations

Based upon the results of field monitoring, the Phase 2 Advisory Committee (Provincial Plan, Part I, Chapter 4 refers) shall advise the Executive Authority on the ingestion control measures that may be necessary. Appropriate instructions shall be issued by the (Forward) Provincial Operations Centre to ministries, municipalities and other organizations, who shall implement them.

5.6 Restoration Operations

Under direction of the Executive Authority, advised by the Phase 2 Advisory Committee, an overall restoration plan shall be developed and communicated to all concerned. This will include, among other things, the return of evacuees not permitted to go back to their homes before the end of Phase 1, the housing of those evacuees who cannot be allowed back for some time, assessment and compensation arrangements, etc.

5.7 Municipal Restoration Operations

Under the overall plan developed by the Province, each municipality affected by the emergency shall formulate a restoration plan, and take all necessary measures to restore conditions to normal within its area.

5.8 Emergency Worker Safety

5.8.1 Based upon the results of field monitoring and dose projections, the Head, Technical Group shall periodically allocate safety status to sub-sectors or areas of the Secondary Zone, according to the guidelines prescribed in the Provincial Plan, Part I, Appendix 4. These will be communicated by the (Forward) Provincial Operations Centre to all organizations involved in Phase 2 operations.

5.8.2 Emergency workers shall observe the precautions prescribed in the Provincial Plan, Part I, Appendix 4 according to the safety status assigned. If necessary, the Exposure Control Centres already established shall continue to function into Phase 2, and new ones may be set up to cover other areas.

5.9 Termination of Emergency

5.9.1 When the Phase 2 Advisory Committee has completed its tasks, it will be disbanded by the Executive Authority.

5.9.2 When considered appropriate, the Provincial emergency will be terminated.

CHAPTER 6

OPERATIONS - LIQUID EMISSION

6.1 General

In case of a purely liquid emission, (i.e., a release of radioactive liquid from CRL into the Ottawa River), the general response would be in the form of Phase 2 operations, as described in Chapter 5. The initial response to such an emergency would differ from that detailed in Chapter 4, and is dealt with below.

6.2 Notification and Response

6.2.1 Initial Notification

The initial notification from CRL shall be made to the Province under the criteria prescribed in the Provincial Plan, Part I, Chapter 5, and in the same manner as for an airborne emission (see 3.2 above). The keywords "LIQUID EMISSION" shall be included in the notification message.

6.2.2 Category 1 and 2 Notifications - Response

If the notification of a liquid emission has attached to it a Category 1 or 2, the situation will be monitored and assessed, and, if and when appropriate, the Coordinator, Emergency Planning Ontario, shall place the Phase 2 organization on standby, or activate the Provincial Nuclear Emergency Plan for Phase 2 operations (section 6.3 below).

6.2.3 Category 3 Notification - Response

In case a Category 3 notification of a liquid emission is made by CRL, the Coordinator, Emergency Planning Ontario, shall immediately activate the Provincial Nuclear Emergency Plan for Phase 2 operations (section 6.3 below).

6.3 Activation for Phase 2 Operations

When the Provincial Nuclear Emergency Plan is to be activated for Phase 2 operations only, a notification to this effect shall be made to all concerned, including the following:

(a) The Provincial Phase 2 organization (5.2.2 above).

(b) Ministry of the Environment

(c) Municipalities likely to be affected

(d) The Federal Government

(e) District #10 OPP

(f) The Province of Quebec

6.4 Response - Provincial Phase 2 Organization

The notification message to the different elements of this organization shall specify whether they are to remain on standby or be activated. In the latter case, the following actions shall be taken:

(a) The Ingestion Monitoring Control Group (IMCG) and the Technical Group shall assemble at the Provincial Operations Centre, and commence planning for ingestion monitoring. They shall receive direction from the Coordinator, Emergency Planning Ontario, and technical guidance from the Head, Technical Group.

(b) The Ingestion Monitoring Organization field elements shall assemble at their assigned rendezvous, and commence monitoring as and when directed by the IMCG.

(c) The Phase 2 Advisory Committee shall meet at the Provincial Operations Centre at a time to be designated by the Coordinator, Emergency Planning Ontario.

(d) An Operations Group component (consisting of the Head/Deputy Head, the two Operations Staff Officers and the Administrative Officer) shall assume responsibility for running the Operations Centre, including its telecommunications. Additional support staff shall be called in, as required. The Operations Group may be activated later (6.6.4 below).

(e) If notified, the Information Group shall report to the Provincial Operations Centre, and the Joint Information Centre staff shall set up that centre (6.7 below).

(f) The Solicitor General of Ontario shall assume the functions of the Executive Authority.

6.5 Response - Municipal

6.5.1 In the case of a liquid emission notification, the municipal plan **shall not be activated**, unless specifically so ordered by the Coordinator, Emergency Planning Ontario. This applies even in the case of a Category 3 notification of a liquid emission, or the activation of the Provincial Plan for Phase 2 operations only.

6.5.2 The municipalities may be directed by the Province to convene the Municipal Control Group, if that is considered appropriate.

6.5.3 The municipalities shall implement any measures ordered by the Province to deal with the situation.

6.6 Operations

6.6.1 Immediate Actions

In case of a Category 3 activation, or whenever deemed appropriate under a Category 2 activation, the Coordinator, Emergency Planning Ontario, shall immediately consider the following measures, and, taking into account technical advice, implement those considered appropriate:

(a) Entry control into the river sectors.

(b) Closing beaches in the affected area.

(c) Banning swimming, fishing, and the consumption of fish caught in the Ottawa River in the vicinity of CRL.

(d) Closing intakes and commencing testing for radioactivity at any or all of the following water supply plants, under arrangements of the Ministry of the Environment:

Chalk River Water Filtration Plant
Pembroke Water Filtration Plant
Petawawa Water Filtration Plant

6.6.2 Provincial Emergency

The Coordinator, Emergency Planning Ontario, shall examine the need for declaration of a Provincial emergency, and shall arrange for such a declaration if considered appropriate.

6.6.3 Phase 2 Operations

These shall be carried out as outlined in Chapter 5 above.

6.6.4 Implementation

The Operations Group of the Provincial Operations Centre, or part of it, may be activated to plan, organize and ensure implementation of the measures to be imposed.

6.7 Emergency Information

When activating the Provincial Plan, the Coordinator, Emergency Planning Ontario, shall consult with the Director of Emergency Information and decide upon the most appropriate organizational structure to handle the emergency information operation. If considered desirable, the Joint Information Centre may be activated.

CHAPTER 7

EMERGENCY INFORMATION AND PUBLIC DIRECTION

7.1 Scope

This chapter deals with the conveyance of direction to the public in the Primary Zone, and the provision of information to the media and the public on the emergency.

7.2 Sequence

Emergency information shall be provided during a CRL emergency as follows:

- Initially by the Province, CRL and the municipalities through their own communication organizations. All such releases shall deal only with their own situation and actions, and shall, to the extent possible, be co-ordinated before issue.

- As soon as the Joint Information Centre (JIC) can begin to function, all information will be issued through it in the form of joint media releases and statements by spokespersons of the three parties, which shall be co-ordinated before they are made. The JIC should be able to commence functioning when the three spokespersons are present and in communication with their respective organizations, and minimum support staff is available. At this stage, the three parties shall cease issuing any information independently.

7.3 Joint Information Centre

7.3.1 The Joint Information Centre is a joint facility of the Province, the local municipalities and CRL. It shall act as the sole official source of information on behalf of these three parties during the emergency. While each party shall have its own spokesperson at the centre, their statements shall be co-ordinated before issue.

7.3.2 The Centre shall perform the following functions:

(a) Issue news releases to the media and provide briefings to the media representatives present at the centre on the provincial, municipal and CRL responses to the emergency.

(b) Keep the MCG and the (Forward) Provincial Operations Centre informed on media and public perceptions and reactions, and recommend any remedial action necessary.

(c) Identify rumours and counter them.

(d) Assist journalists working in the area.

(e) Confirm that Public Action Directives are being correctly broadcast by the Designated Media.

7.4 Designated Media

Prior arrangements shall be made by the Coordinator, Emergency Planning Ontario with the media organizations (the Designated Media) which are to be used for communicating directions and information to the Primary Zone population.

The Designated Media for this plan is:

CBC Radio

7.5 Public Action Directives (PADs)

7.5.1 These directives are instructions to the public to take some appropriate preparatory or protective measure. They are broadcast by the Designated Media when so required under a pre-arranged system, which is detailed in the PAD Manual. These prior arrangements include pre-scripted and, possibly, pre-recorded messages.

7.5.2 If any measure is to be implemented before the Provincial Operations Centre is functioning, the Co-ordinator, Emergency Planning Ontario shall issue the necessary instructions direct to the Designated Media to broadcast the appropriate PAD.

7.5.3 Once the Provincial Operations Centre is operational, it shall have the appropriate Public Action Directives broadcast by the Designated Media. When the Forward Provincial Operations Centre takes over control, it shall carry out this function.

7.5.4 The Joint Information Centre shall monitor the PADs as broadcast by the Designated Media, and shall ensure that they are being correctly transmitted to the public. It shall then confirm this fact to the (Forward) Provincial Operations Centre.

APPENDIX 1
(Ref: Section 2.3)

RESPONSE SECTOR BOUNDARIES

(also see Figure 2, page 9)

SECTOR	MUNICIPALITY	SECTOR BOUNDARY (north; east; south; west)
1	Town of Deep River	North Shore Ottawa River Canton d'Esher to Indian Point; west edge Buchanan Township along fire break, Townline Road and Wylie road plus Deep River and District Hospital; Deep River townline limits at Wylie Road to McKee Subdivision; western limit Deep River and McKee Subdivision; west of McAnulty Road to Ottawa River Quebec boundary then northeast to western edge of Canton d'Esher.
2	Town of Deep River	North Shore of Ottawa River, Indian Point to Schyan Depot; CRL exclusion area, west boundary; Deep River boundary; Cranberry Lakes and Legere Rd. (Deep River Restaurant) to Wylie Road; Wylie Road, Townline Road, east edge of Deep River and District Hospital, fire break along Rolph/Buchanan Township to north shore Ottawa River at Indian Point.
3	Rolph, Buchanan, Wylie and McKay Township	Deep River near Deep River Restaurant; Township CRL exclusion area to Kings Road extension; Kings Road extension to Highway 17 then across Canadian Pacific Railway; generally north to Wylie Road at Deep River/ Township junction.
4	Village of Chalk River	Kings Road extension north; CRL exclusion area/CFB Petawawa reserve to Highway 17; south shore of Cory Lake; then generally north to CPR line.
5	CFB Petawa	South shore of Cory Lake; Highway #17 to Duke Crossing (Orange Road); Duke Crossing to Unit Lake; Thomas Lake, Marshall lake to Cory Lake.

RESPONSE SECTOR BOUNDARIES (cont'd)

(also See Figure 2, Page 9)

SECTOR	MUNICIPALITY	SECTOR BOUNDARY (north; east; south; west)
6	CFB Petawawa	CRL exclusion area; north and east shore Ottawa River; extension of Duke crossing to Ottawa River (junction of Buchannan Petawawa Township); Highway #17 and boundary of CFB Petawawa.
7	Ottawa River	Quebec shore; Pointe au Bapteme; Ontario shore; Schyan Point depot.
Q1	Pontiac County	10 km arc from CRL (Lac McCool); Schyan River; Ottawa River; Canton de Malakoff.
Q2	Pontiac County	Schyan River; 10 km arc from CRL (Lac McCool); Canton de Sheen; Ottawa River.
Q3	Pontiac County	Canton d'Esher; 10 km arc from CRL (Lac Sullivan); 10 km from CRL chimney (east end Baise Downie); Ottawa River.

APPENDIX 2
(Ref: Section 2.4)

PLANNING DATA

SECTOR	POPULATION	DAY CARE & NURSERY SCHOOLS*	SCHOOLS #	SCHOOLS ENROLLMENT	HOSP.	SR.CITIZEN & NURSING HOMES
1	4166	1	4	1493		2
2	50				1 (45 beds)	
3	230					
4	832	1	1	100		
5	20					
6**	(CFB)					
7	(Ottawa River)					
TOTAL	5298	2	5	1593	1	2

* Private Daycare is not accounted for in this data.

** CFB: Canadian Forces Base Petawawa training area. No residential population.

APPENDIX 3
(Ref: Section 2.4)

STANDARD LEAD TIMES FOR PROTECTIVE MEASURES

SECTOR	ALERTING	SHELTERING	EVACUATION	
			Normal Conditions	Reduced Visibility
	Hrs. Min.	Hrs. Min.	Hrs. Min.	Hrs. Min.
1	45	1 45	2 00	2 45
2	45	1 45	2 00	2 45
3	45	1 45	2 00	2 45
4	45	1 45	2 00	2 45
5	45	1 45	2 00	2 45
7	45		1 45	---

NOTES TO APPENDIX 3

1. **Standard lead times** represent the total time required, under standard conditions, to complete a protective measure by all those instructed to do so.

2. **Sheltering lead time =**

   The time required to make and transmit decisions (1 hour) + alerting time (45 minutes).

3. **Evacuation lead time =**

   The time required to make and transmit decisions (1 hour) + evacuation time (see Appendix 4).

4. Standard conditions are assumed to be

   - fair weather
   - fully mobilized emergency organization
   - no traffic obstructions
   - initial public notification completed

EVACUATION TIMES AND OUTLINE PLAN

APPENDIX 4
(Ref: Section 2.4)

SECTOR	TRANSPORTATION		RECEPTION CENTRE	MAIN EVACUATION ROUTE	EVACUATION TIMES	
					NORMAL CONDITIONS	REDUCED VISIBILITY
	Cars	Buses*			Hrs. Min.	Hrs. Min.
1	1768	10(22)	Mattawa Camp	Highway #17 (south)	1 00	1 45
2	17	1	Mattawa Camp	Highway #17 (south)	1 00	1 45
3	90	1	Mattawa Camp	Highway #17 (south)	1 00	1 45
4	325	3(2)	Mattawa Camp	Highway #17 (south)	1 00	1 45
5	8		Mattawa Camp	Highway #17 (south)	1 00	1 45
AECL			Mattawa Camp	Highway #17 (south)		

* Buses indicated by ( ) represent buses that will evacuate students from school. These buses will not be needed when schools are closed. The other buses represent people requiring bus or other transport from the sectors.

NOTES TO APPENDIX 4

1. Evacuation time is the period from the time the evacuation order is given by the Municipal Control Group, to the time the last vehicle clears the Primary Zone boundary:

   Preparation time (30 minutes)
   + time to clear the sector.

2. Evacuation times are estimated under normal conditions and conditions of reduced visibility. Normal conditions assume:

   (i) fair weather
   (ii) a fully mobilized emergency organization
   (iii) no traffic obstruction

3. Reduced visibility assumes an additional 50% time factor added to the time it takes for the last vehicle to clear the sector under normal conditions to allow for adverse weather conditions such as heavy rain, snow, fog, etc.

APPENDIX 5
(Ref. Section 2.6)

EMERGENCY FACILITIES - LOCATIONS

1.	Provincial Operations Centre:		OPP General Headquarters 90 Harbour Street Toronto
2.	Forward Provincial Operations Centre:		Ministry of Natural Resources 220 Riverside Drive Pembroke
3.	Joint Information Centre:		Festival Hall Pembroke Senior Public School Pembroke
4.	Emergency Action Group OMAF:		6th Floor 801 Bay Street Toronto
5.	Emergency Action Group MCSS:		6th Floor Hepburn Block 80 Grosvenor Street Toronto
6.	Emergency Action Group MTO:		Communications Centre East Building 1201 Wilson Avenue Downsview
7.	Radiation Laboratory:		MOL Radiation Protection Laboratory 81 Resources Road Weston
8.	Field Headquarters IMO:	Site A	Stonecliffe Community Centre Stonecliffe
		Site B	Pt. Alexander Community Centre Pt. Alexander
		Site C	Petawawa Firehall Petawawa
9.	Municipal Operations Centre:		Municipal Hall Townships of Rolph, Buchanan, Wylie and McKay, Point Alexander

10. Traffic Control Centre:		OPP Detachment HQ Pembroke
11. Reception Centre:		Mattawa Camp CFB Petawawa
12. Evacuee Centres:	EC1	Pembroke Memorial Centre Lake Street Pembroke
	EC2	Champlain High School 360 Carmody Street Pembroke
	EC3	Bishop Smith High School 390 Bell Street Pembroke
	EC4	Fellowes High School 420 Bell Street Pembroke
13. Exposure Control Centre/ Monitoring and Decontamination Unit:		Mattawa Camp CFB Petawawa
14. Exposure Control Centre:		Fire Hall Townships of Rolph Buchanan, Wylie and McKay Point Alexander